

Work Order ID 56496

February 25, 2010 10:47:27 AM



Page 1

Item ID: D3391-021

Accept



Setup Start



Revision ID:

Stop



Item Name: Fwd Tube Assembly

Start Date: 2/25/10 Start Qty: 1.00



Cust Item ID:

Required Date: 2/25/10 Req'd Qty: 1.00

Customer:

Reference:

Approvals:

Process Plan:

[Signature]

Date: 10-2-25

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3391	Rev H								
100		0.00							
	Skidtubes								
Skidtubes	Memo	0.00							
Skidtubes	Cut extrusion to 46.52 +0.010 -0.020								
110		0.00							
	BENDING MACHINE - SKIDTUBES								
CNC Bend 1	Memo	0.00							
CNC Delta 100 Bender	Bend as per Dwg D3391 Using Bend Prog 3391021								
120		0.00							
	QC5- Inspect part completeness to step on W/O								
QC	Memo	0.00							
Quality Control									

(41)

BE 10/2/25

[Signature] 10/2/25

(41)

S 10/2/26

h = 6.750"
L = 12.8"

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Item Name: Fwd Tube Assembly

Start Date: 2/25/10 Start Qty: 1.00



Cust Item ID:

Required Date: 2/25/10 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 HAAS 1	HAAS CNC VERTICAL MACHINING #1 Memo 1-Machine as per Folio FA590 Rev. AA & Dwg D3391 Rev. H Identify as D3391-1 2-Deburr	0.00 0.00				1	0		
HAAS CNC vertical machine #1									
140 QC	QC2- Inspect parts off machine FAI/FAIB Memo	0.00 0.00				1	0		
Quality Control									
150 Mill Conv	CONVENTIONAL MILLING MACHINE Memo	0.00 0.00				1	0		
Conventional Milling Machine	Drill X1 Aft cap as per Dwg D3391 .1875" dia								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Cust Item ID:

Required Date: 2/25/10 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo	0.00 0.00				<u>1</u>	<u>1</u>		
170 QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00							

aml 10/02/28

L.B 10/03/02

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Work Order ID 56496

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Item ID: D3391-021

Accept



Setup Start



Revision ID:

Stop



Item Name: Fwd Tube Assembly

Start Date: 2/25/10 Start Qty: 1.00



Cust Item ID:

Required Date: 2/25/10 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

180

0.00



Skidtubes

Skidtubes

Memo

0.00

Photo

1-Drill float bag holes as per Dwg D3391 using DT8798(Do not open tow cap holes to finish size)
(ONLY DRILL HOLES MARKED "A")

2-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step

3-Open tow cap holes to .208" as per Dwg D3391

4-Open Tow Ring hole to .640" as per Dwg D3391

5- open float bag holes 0.328" and counter sink as per dwg D3391

6-Deburr & Scribe Batch number Inside aft end.

7-Transfer drill D3391-021 with D3391-023

H 10/3/9

H 10/3/18

190

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

8 10/09/09

(X)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3391-021 PAR #: _____ Fault Category: Skidplate NCR: Yes No DQA: Yes Date: 10/05/08
 Resolution: Accepted Disposition: use as is QA: N/C Closed: Yes Date: 10/06/08

NCR: <u>56496</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
<u>10/3/08</u>	<u>130</u>	Found by Skidplate employee when starting to Drill Flange holes that the APT ^{FWD} cap holes were drilled off center.	<u>CP</u> <u>10.03.09</u> <u>per</u> <u>OSI 042</u>	- Located by hand to Drill Flange holes correctly. - Due to FWD cap holes being off	<u>10/3/08</u>	<u>8</u> <u>10/3/08</u>	<u>CP</u> <u>10.03.09</u> <u>per</u> <u>OSI 042</u>	<u>S</u> <u>10/03/08</u>
		R.C: LOA	<u>CP</u> <u>10.03.09</u> <u>per</u> <u>OSI 042</u>	The FWD cap will be on a angle. No effect on strength of tube. Acceptable.		<u>✓</u>	<u>CP</u> <u>10.03.09</u> <u>per</u> <u>OSI 042</u>	<u>S</u> <u>10/03/08</u>



NOTE: Date & initial all entries



Work Order ID 56496




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Item ID: D3391-021 Accept  Setup Start 
Revision ID: Stop 
Item Name: Fwd Tube Assembly
Start Date: 2/25/10 Start Qty: 1.00  Cust Item ID:
Required Date: 2/25/10 Req'd Qty: 1.00  Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start 
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop 

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200	Chemical Conversion Coat per QSI005 4.1	0.00							
 HandFinish	Memo	0.00							
Hand Finishing									
210	QC3- Inspect Part Finish	0.00							
 QC	Memo	0.00							
Quality Control									
220	Skidtubes	0.00							
 Skidtubes	Memo	0.00							
Skidtubes	1-instal spacers as per dwg D3391 A/R Magnabond 6398 batch: <u>112417</u> exp. date: <u>11/1/30</u> cure time 12hrs. as per QSI015 2- grind crossbolt flush 3-back drill crossbolt if necessary								

Handwritten notes:
DP 10-3-10
1 11/10/3/10
1 11/10/3/10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Work Order ID 56496

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Item ID: D3391-021

Accept



Setup Start



Revision ID:

Item Name: Fwd Tube Assembly

Stop



Start Date: 2/25/10 Start Qty: 1.00



Cust Item ID:

Required Date: 2/25/10 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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230

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

8 10/05/10

(X)

Quality Control

235

AL

- Pressure Wash

- Reallocate as per PAR09-043 = 7M-1 10/05/05

(1X)

240

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

M114207

Memo

0.00

=> W 10/05/05

1 X

Powder Coating

START TIME: *2:30pm*
OVEN TEMPERATURE: *320°C*
FINISH TIME: *3:00pm*

250

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

= 7M-1 10/05/06 (1X)

Quality Control

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 7



Accept

**Setup Start**

Stop

[illegible]**Cust Item ID:**

Customer:

Reference:

Run Start



Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
255	Skidtubes	0.00							
	Memo	0.00							
	**** install D3591-1 spacer as per DS19364 and wearplate and gasket as per DWG ****								
257	QC5- Inspect part completeness to step on W/O	0.00							
	Memo	0.00							
260	Identify as per dwg & Stock Location:	0.00							
	Memo	0.00							

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 56496

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Item ID: D3391-021

Accept



Setup Start



Revision ID:

Stop



Item Name: Fwd Tube Assembly

Start Date: 2/25/10 Start Qty: 1.00



Cust Item ID:

Required Date: 2/25/10 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

280

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/05/10

MF
10-5-10

Picklist Print

February 25, 2010 10:47:32 AM

Page 1

Work Order ID: 56496

Parent Item: D3391-021

Parent Item Name: Fwd Tube Assembly

Start Date: 2/25/10

Required Date: 2/25/10

Comments: IPP A 05.09.13 New issue
IPP B 06.02.10 Dwg rev.D ecn 773
IPP C 06.05.02 Added inspections
IPP D 07.03.13 rev F dwg

KJ/JLM
EC
EC
EC

Start Qty: 1.00

Required Qty: 1.00

D6013-047 Manufactured No 100 Each 51.0000 1.0000
Skidtube Material

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
LG	51	
23935	3	
26547	48	

D3670-4-200 Manufactured No 255 Each 83.0000 4.0000
SPACER

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	83	
48198	4	
48269	79	

D3401-041 Manufactured No 255 Each 25.0000 1.0000
Tow Cap Assembly

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	25	
36216	1	
41931	1	
46029	13	
50316	10	

1 BE 10/02/25

4 m 10/13/10

10/05/06
IX m-p

Picklist Print

Page 2

February 25, 2010 10:47:32 AM

Work Order ID: 56496



Parent Item: D3391-021



Parent Item Name: Fwd Tube Assembly

Start Date: 2/25/10

Required Date: 2/25/10

Comments: IPP A 05.09.13 New issue
IPP B 06.02.10 Dwg rev.D ecn 773
IPP C 06.05.02 Added inspections
IPP D 07.03.13 rev F dwg

KJ/JLM
EC
EC
EC

Start Qty: 1.00

Required Qty: 1.00

D3564-13 Manufactured No

255

Each

19.0000

1.0000



Wearshoe

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP17

51611

Main Warehouse

ST

45409

46495

BS6533

7

7

12

2

10

1X M-L
10/05/06

D3566-13 Manufactured No

255

Each

79.0000

1.0000



Gasket

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

53461

Main Warehouse

ST

45717

50265

77

77

2

1

1

1X M-L
10/05/06

February 25, 2010 10:47:32 AM

Shop Packet Print

Page 2

Picklist Print

February 25, 2010 10:47:32 AM

Page 3

Work Order ID: 56496

Parent Item: D3391-021

Parent Item Name: Fwd Tube Assembly

Comments: IPP A 05.09.13 New issue KJ/JLM
IPP B 06.02.10 Dwg rev.D ecn 773 EC
IPP C 06.05.02 Added inspections EC
IPP D 07.03.13 rev F dwg EC

Start Date: 2/25/10

Required Date: 2/25/10

Start Qty: 1.00

Required Qty: 1.00

AN960C10L

Purchased No

255

Each

388.0000

10.0000



washer

NAS1149C0332R

M114341



10x M-L
10/05/06

Warehouse

Loc Qty

Loc Code

Location

OFFSHORE

FG

100

103585

100

Main Warehouse

ST

288

112116

128

112612

160

AN3C4A

Purchased

No

255

Each

1,033.000

10.0000



BOLT



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

1033

112314

13

112720

12

112724

3

112829

1

112991

2

113121

64

113226

344

113644

394

113749

200

M114416

10x M-L
10/05/06

February 25, 2010 10:47:32 AM

Shop Packet Print

Page 3

Picklist Print

Page 4

February 25, 2010 10:47:32 AM

Work Order ID: 56496

Parent Item: D3391-021

Parent Item Name: Fwd Tube Assembly

Start Date: 2/25/10

Required Date: 2/25/10

Comments: IPP A 05.09.13 New issue
IPP B 06.02.10 Dwg rev.D ecn 773
IPP C 06.05.02 Added inspections
IPP D 07.03.13 rev F dwg

KJ/JLM
EC
EC
EC

Start Qty: 1.00

Required Qty: 1.00

D3672-1 Manufactured No

255

Each

1,682.000 4.0000



Phenolic Washer

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

39275

42329

47628

52505

Main Warehouse

ST117

51674

1182

19

5

158

1000

500

500

AELS-1032-130

Purchased

No

255

Each

0.0000

2.0000



INSERT

AELS-1032-225

Purchased

No

255

Each

0.0000

10.0000



INSERT

B 51674

M 114407

M 110768

4x m-l 10/05/06

2x m-l 10/05/06 *

10x m-l 10/05/06 *

SHOP COPY

RETURN TO

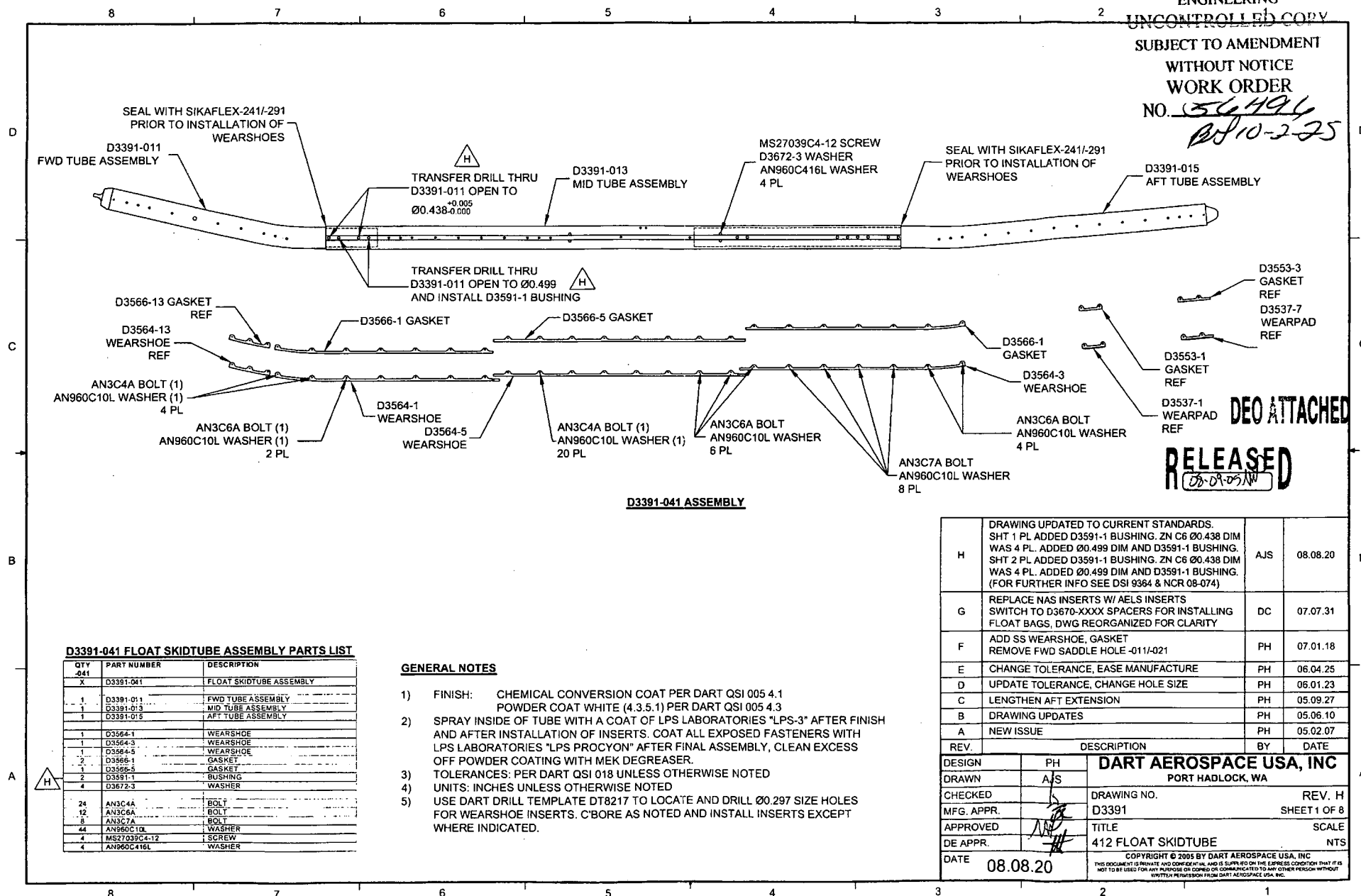
ENGINEERING

UNCONTROLLED COPY

SUBJECT TO AMENDMENT

WITHOUT NOTICE

WORK ORDER

NO. 56496
0810-2-25

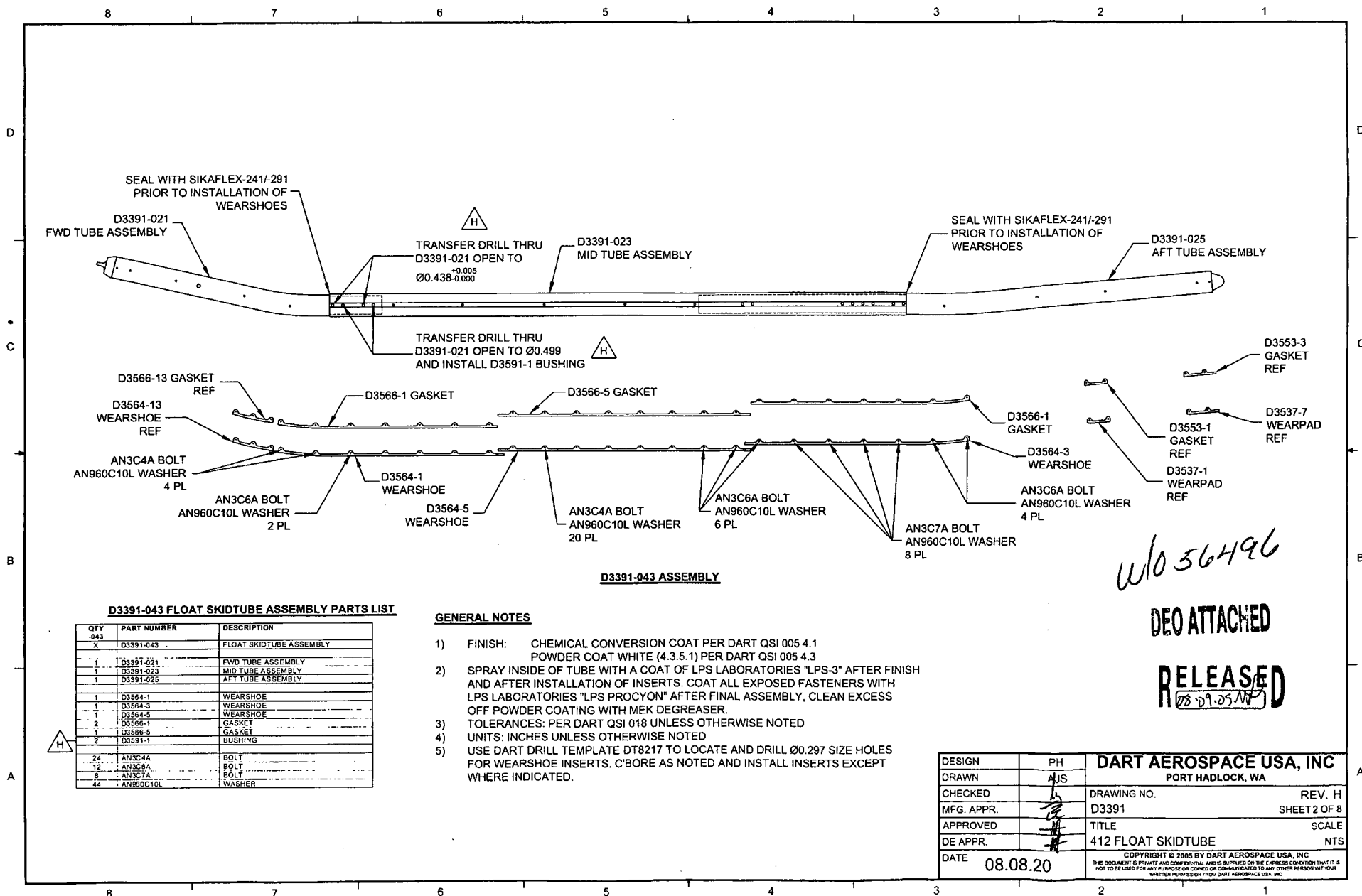
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



W1056496

DEO ATTACHED

RELEASED
08-09-25-11

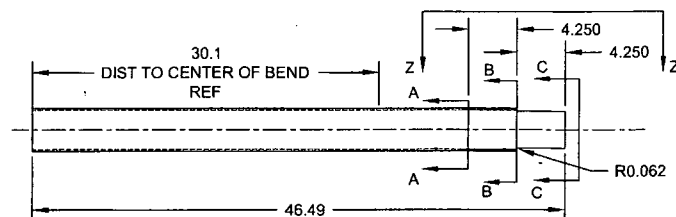
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

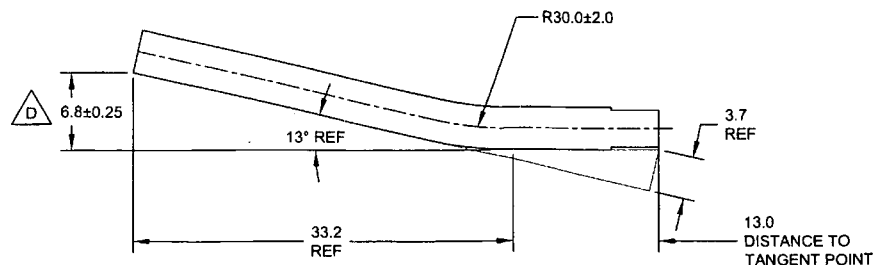
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

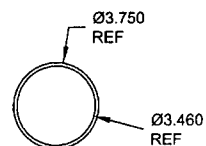
NOTE: Date & initial all entries



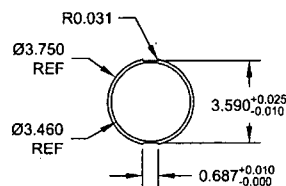
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



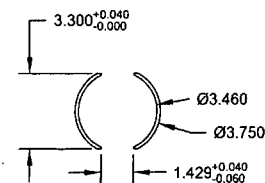
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



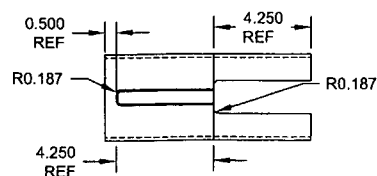
SECTION A-A
SCALE 2X



SECTION B-B
SCALE 2X



SECTION C-C
SCALE 2X



VIEW Z-Z
SCALE 2X

W1036496

DEO ATTACHED
RELEASED
28 JAN 05

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 3 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	<small>COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS UNCLASSIFIED AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC</small>	

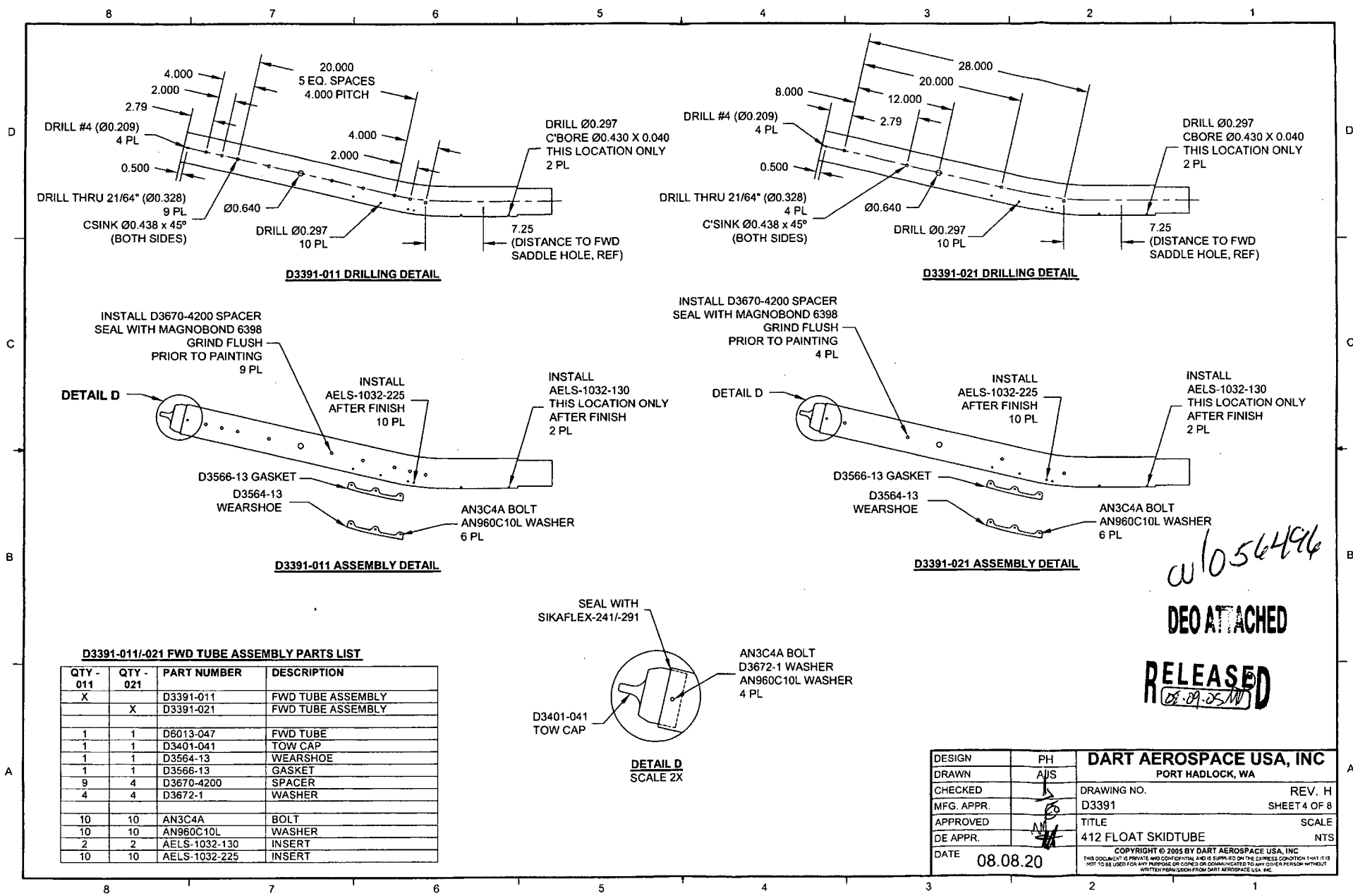
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



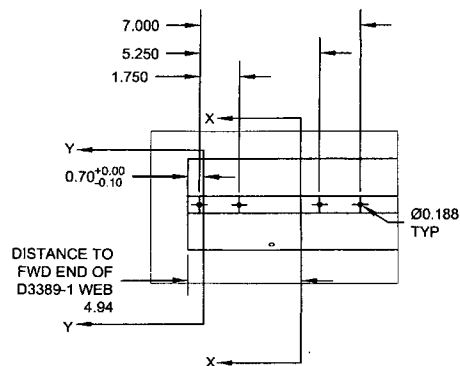
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

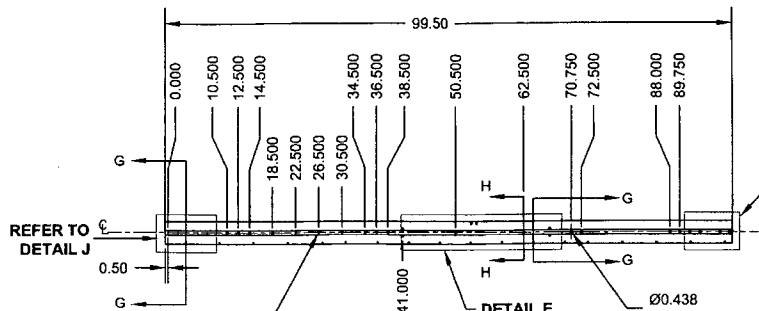
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

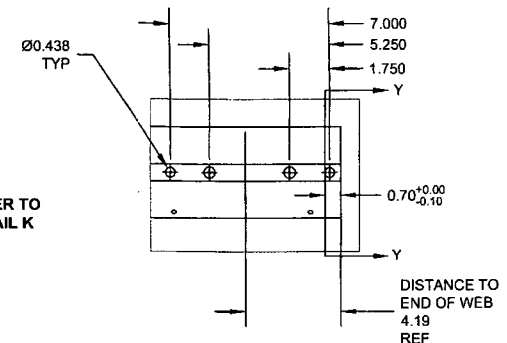


DETAIL J
SCALE 4X

DRILL THRU 21/64" (Ø0.328)
CSINK Ø0.438 X 45° (BOTH SIDES)
12 PL



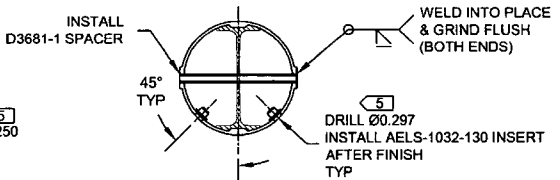
D3391-013 ASSEMBLY DETAIL



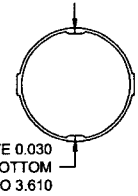
DETAIL K
SCALE 4X



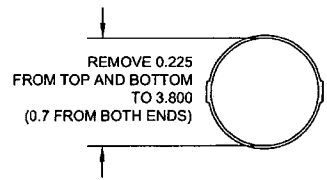
SECTION G-G
SCALE 5X



SECTION H-H
SCALE 5X



SECTION X-X
SCALE 5X

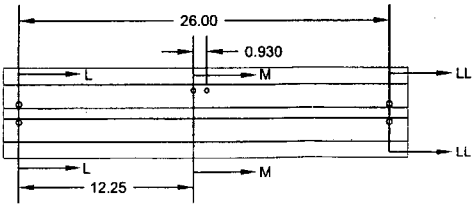


SECTION Y-Y
SCALE 5X

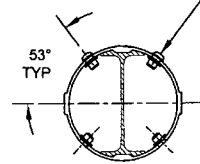
DRILL Ø0.297
INSTALL AELS-1032-130 INSERT
MS27039C1-09 SCREW
D3672-1 WASHER
AN960C10L WASHER
AFTER FINISH
4 PL

D3391-013 MID TUBE ASSEMBLY PARTS LIST

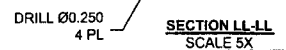
QTY -013	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW



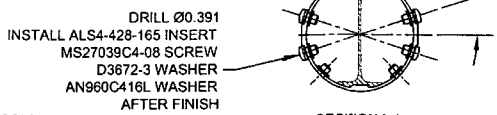
DETAIL E
SCALE NONE



SECTION M-M
SCALE 5X



SECTION L-L
SCALE 5X



SECTION L-L
SCALE 5X

DEO ATTACHED

RELEASED

D3391-013 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 5 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	<small>COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

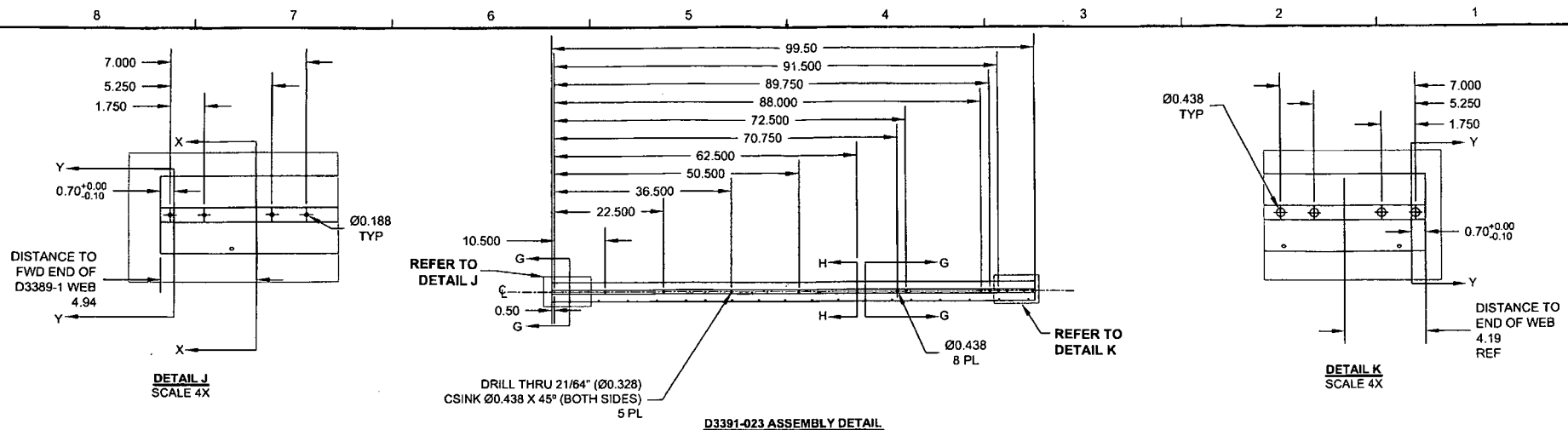
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

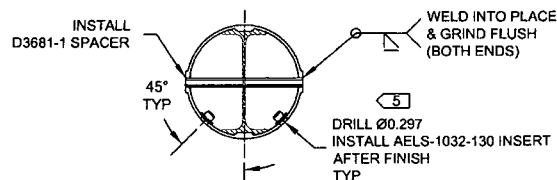
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

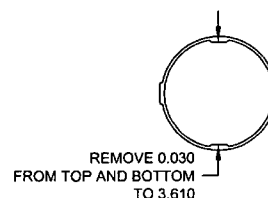
NOTE: Date & initial all entries



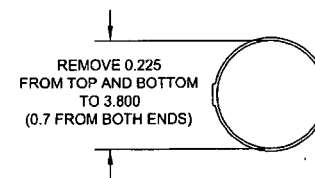
SECTION G-G
SCALE 5X



SECTION H-H
SCALE 5X



SECTION X-X
SCALE 5X



SECTION Y-Y
SCALE 5X

D3391-023 MID TUBE ASSEMBLY PARTS LIST

QTY -	PART NUMBER	DESCRIPTION
023		
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

D3391-023 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 6 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
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w/036496

DEO ATTACHED
RELEASED
08-09-05-14

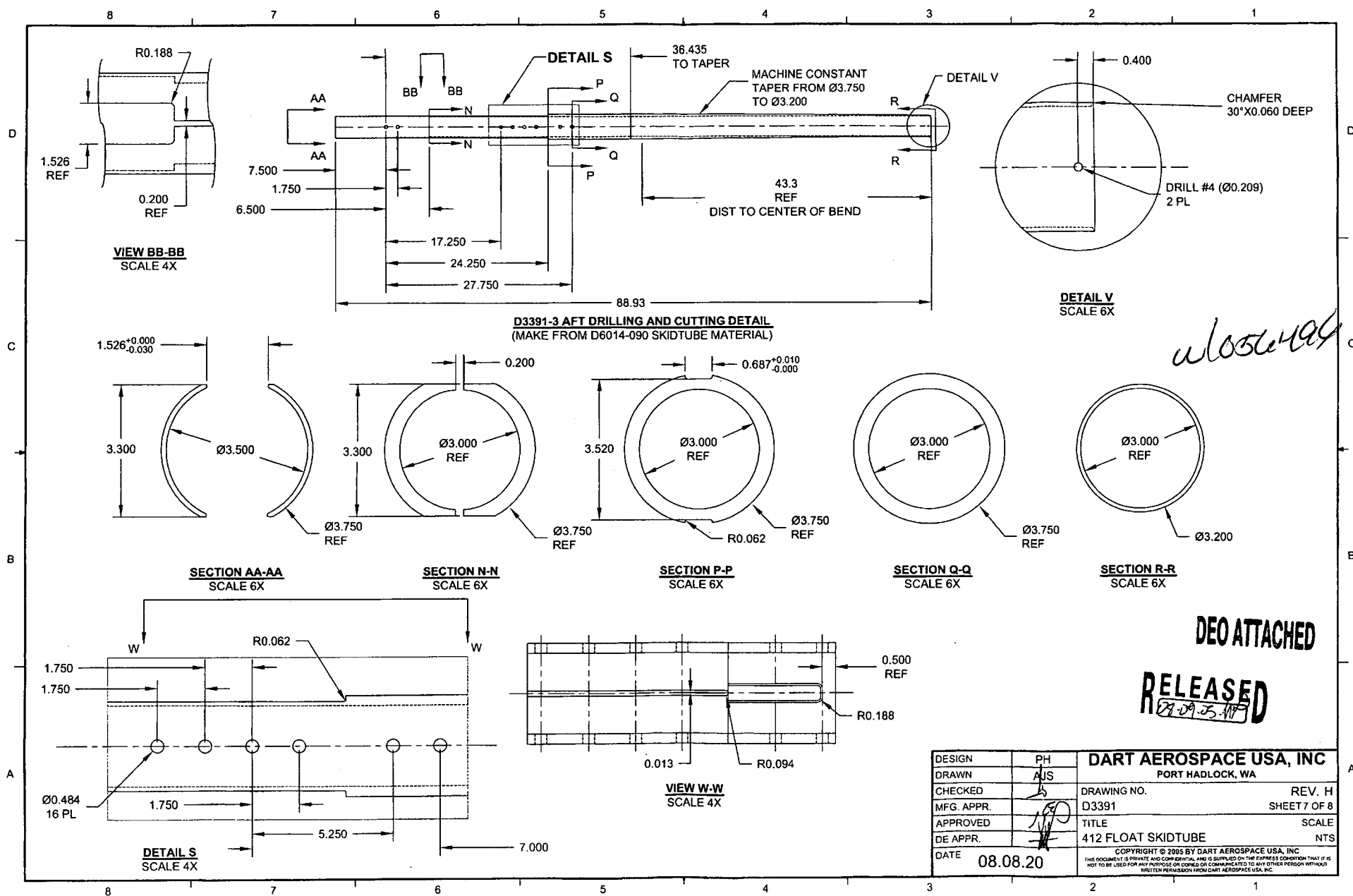
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 7 OF 8
APPROVED		TITLE	SCALE
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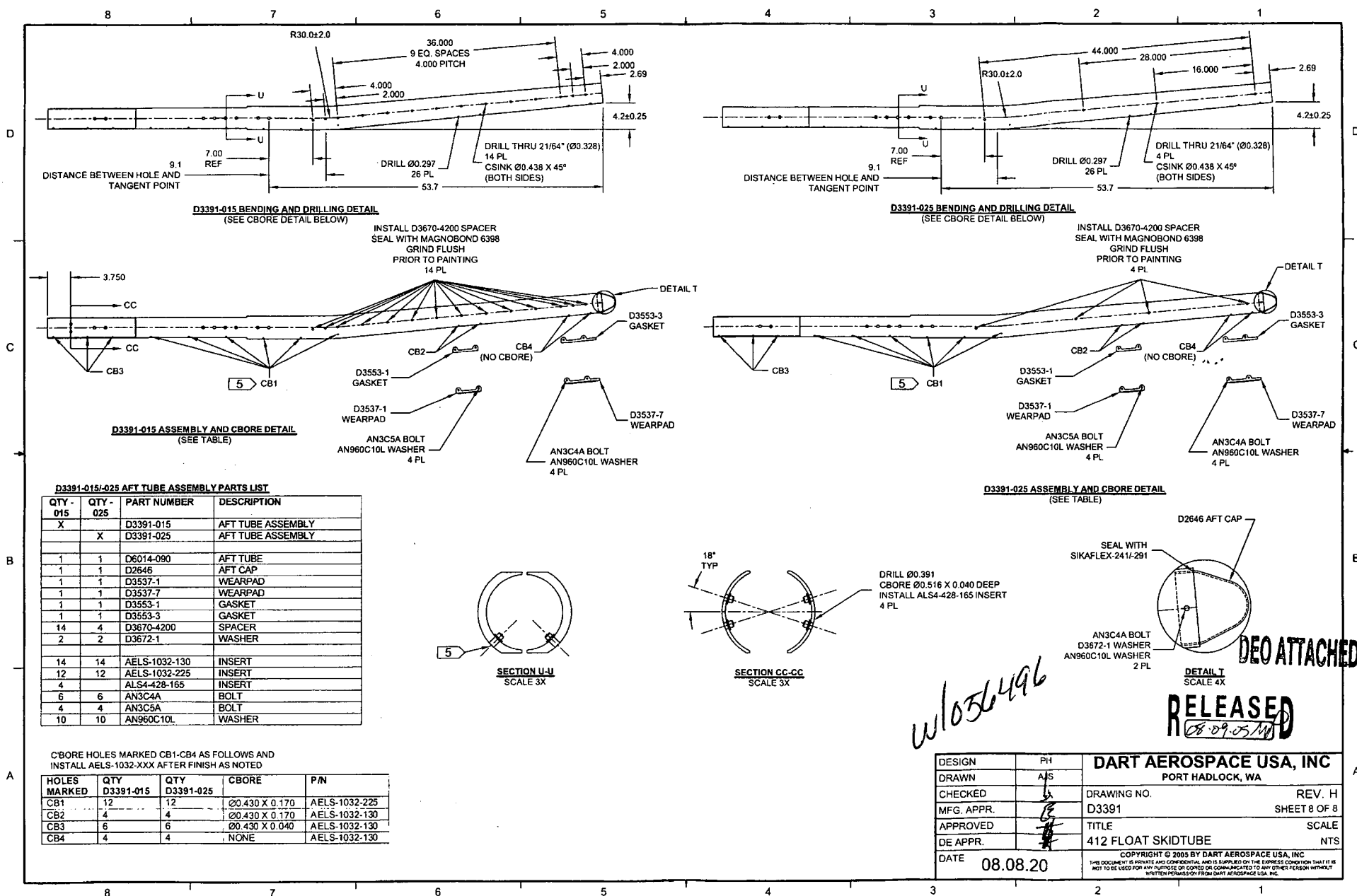
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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W/O:		WORK ORDER CHANGES					
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DRAWING NO. D3391	TITLE 412 FLOAT SKIDTUBE	REV. H	DART AEROSPACE USA, INC ENGINEERING ORDER		D.E.O. NO. D3391-H-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>MP</i>	CHECKED <i>h</i>	MFG. APPR. <i>h</i>	APPROVED <i>MP</i>	DE APPR. <i>h</i>			
DATE 09.09.23	DATE 04.09.24	DATE 09/09/25	DATE 09/09/30	DATE 09/09/30			

PURPOSE:

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF D3391-041/-043 SKIDTUBES.

CHANGE:

AMEND NOTE 2 OF D3391-041/-043 SKIDTUBE ASSEMBLIES (ZN A6-1, A6-2) AS FOLLOWS:

- 2) ~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH~~
~~AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH~~
 LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS
 OFF POWDER COATING WITH MEK DEGREASER.

RELEASED
 2010-02-02

MP

W/O 56496

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